

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: Elastic ToughRubber™ 90

Synonyms: ETR 90

1.2. Intended Use of the Product

Use of the Substance/Mixture: VAT based 3D printing. For professional use only. For research and development use only.

1.3. Name, Address, and Telephone of the Responsible Party

Company

Adaptive 3D Technologies
 608 Development Drive, STE 200
 Plano, TX 75074
 (469) 573-0024
www.adaptive3d.com

1.4. Emergency Telephone Number

Emergency Number : (469) 573-0024

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

Acute Tox., Oral 4	H302
Skin Irrit. 2	H315
Skin Sens. 1	H317
Eye Irrit. 2A	H319
Acute Tox., Inh. 4	H332
STOT, SE, Resp. 3	H335
Repr. 2	H361
STOT, RE 2	H373
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

Full text of hazard classes and H-statements : see section 16

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US)



Signal Word (GHS-US)

: Warning

Hazard Statements (GHS-US)

: H302 - Harmful if swallowed
 H315 - Causes skin irritation.
 H317 - May cause an allergic skin reaction.
 H319 - Causes serious eye irritation.
 H332 - Harmful if inhaled.
 H335 - May cause respiratory irritation
 H361 - Suspected of damaging fertility or the unborn child.
 H373 - May cause damage to organs through prolonged or repeated exposure.
 H400 - Very toxic to aquatic life.
 H410 - Very toxic to aquatic life with long lasting effects.

Precautionary Statements (GHS-US)

: P260 - Do not breath dust/fumes/gas/mist/vapours/spray.
 P262 - Do not get in eyes, on skin, or on clothing.
 P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.
 P270 - Do not eat, drink or smoke when using this product
 P271 - Use only outdoors or in a well-ventilated area.
 P272 - Contaminated work clothing must not be allowed out of the workplace.

P273 - Avoid release to the environment.
 P280 - Wear protective gloves, protective clothing, and eye protection.
 P301+P312+P330 - If swallowed: Call a poison center or doctor if you feel unwell.
 Rinse mouth
 P302+P352 - If on skin: Wash with plenty of water.
 P304+P340+P312 - If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor if you feel unwell.
 P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P308+P313 - If exposed or concerned: Get medical advice/attention.
 P312 - Call a doctor, a POISON CENTER if you feel unwell
 P314 - Get medical advice/attention if you feel unwell
 P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
 P337+P313 - If eye irritation persists: Get medical advice/attention.
 P362+P364 - Take off contaminated clothing and wash before reuse
 P391 - Collect spillage.
 P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
 P405 - Store locked up.
 P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

HNOC- Stench. Effects of this substance were observed in the liver and kidneys. This product contains toluene as a residual below 500 ppm. Can be harmful to aquatic organisms.

2.3. Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions. If uninhibited, if the inhibitor is lost, or in the presence of incompatible materials, extreme heat, sources of ignition, or sunlight this product may undergo a hazardous polymerization reaction with the generation of heat. Protect from freezing - if freezing occurs localized depletion of the inhibitor may occur, resulting in an uninhibited product. Take caution when thawing the substance. Always thaw at appropriate temperature, do not apply heat, material should be well mixed. Take appropriate precautions to ensure the inhibitor is not lost, and all applicable handling and storage guidelines are followed.

2.4. Unknown Acute Toxicity (GHS-US)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

Name	CAS - Number	%	GHS US classification
Aliphatic urethane methacrylate oligomer (CN1967)	Proprietary	0.01 - 5.00	H315, H317, H319
Urethane methacrylate oligomer (CN1970)	Proprietary	0.01 - 5.00	H315, H317, H319, H412
Aliphatic urethane acrylate oligomer (CN9004)	Proprietary	30.00 - 70.00	H315, H317, H319
Aliphatic urethane acrylate oligomer (CN9028)	Proprietary	0.01 - 5.00	N/A
2,2'-(Ethylenedioxy)diethanethiol	14970-87-7	0.01 - 5.00	H302, H332, H401, H411
Pentaerythritol tetrakis (3-mercaptopbutylate)	31775-89-0	0.01 - 5.00	H317, H400, H411
2-Hydroxyethyl Methacrylate	868-77-9	30.00 - 70.00	H315, H317, H319, H373
Isobornyl acrylate	5888-33-5	0.01 - 5.00	H315, H319, H317, H335, H400, H410
Isobornyl methacrylate	7534-94-3	0.01 - 5.00	H401, H412
Carbon black	1333-86-4	0.01 - 0.03	Comb. Dust.
Butylated hydroxytoluene	128-37-0	0.08 - 0.11	H400, H410, Comb. Dust
Monomethyl hydroquinone	150-76-5	0.08 - 0.11	H302, H319, H317, H361,

			H402, H411
2,4,6-trimethylbenzoyldiphenyl phosphine oxide	75980-60-8	0.84 – 1.04	H317, H361, H401, H411
Phenyl-bis(2,4,6-trimethylbenzoyl)-phosphin oxide	162881-26-7	0.84 – 1.04	H317, H413
poly(tetrahydrofuran)	25190-06-1	0.01 - 5.00	H315, H319, H335
Fumed silica	112945-52-5	0.01 - 5.00	N/A
Poly(ethylene glycol)-block-poly(propyleneglycol)-block-poly(ethylene glycol)	9003-11-6	0.01 - 5.00	N/A
Acrylated polydimethylsiloxane	125455-52-9	0.01 - 5.00	H317
Di(propylene glycol) dibenzoate	27138-31-4	0.01 - 5.00	H402, H12

Full text of H-phrases: see section 16

The specific chemical identity and/or exact percentage of composition have been withheld as a trade secret [29 CFR 1910.1200].

SECTION 4: FIRST AID MEASURES

4.1. Description of First-aid Measures

First-aid Measures General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid Measures After Inhalation: When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

First-aid Measures After Skin Contact: Remove contaminated clothing. Immediately drench affected area with water for at least 15 minutes. If exposed or concerned: Get medical advice/attention.

First-aid Measures After Eye Contact: Immediately rinse with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

First-aid Measures After Ingestion: Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

Symptoms/Injuries: Causes serious eye irritation. Causes skin irritation. May cause respiratory irritation. Skin sensitization. Suspected of causing cancer. Suspected of damaging fertility or the unborn child.

Symptoms/Injuries After Inhalation: Irritation of the respiratory tract and the other mucous membranes. This product may lead to cross-sensitization of other acrylate or methacrylate compounds. If sensitized to other acrylate or methacrylate compounds this product may induce an allergic reaction.

Symptoms/Injuries After Skin Contact: May cause an allergic skin reaction. Redness, pain, swelling, itching, burning, dryness, and dermatitis. This product may lead to cross-sensitization of other acrylate or methacrylate compounds. If sensitized to other acrylate or methacrylate compounds this product may induce an allergic reaction.

Symptoms/Injuries After Eye Contact: Contact causes severe irritation with redness and swelling of the conjunctiva.

Symptoms/Injuries After Ingestion: Ingestion may cause adverse effects.

Chronic Symptoms: Suspected of damaging fertility or the unborn child. Suspected of causing cancer.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Water spray, fog, carbon dioxide (CO₂), alcohol-resistant foam, or dry chemical.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not considered flammable but may burn at high temperatures.

Explosion Hazard: Product is not explosive. An uncontrolled polymerization may produce a rapid release of energy with the potential for an explosion of unvented closed containers.

Reactivity: Hazardous reactions will not occur under normal conditions. Excessive heating or exposure to incompatibilities may cause an exothermic polymerization reaction.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers. Do not breathe fumes from fires or vapors from decomposition.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Carbon oxides (CO, CO₂). Nitrogen oxides. Hydrogen cyanide. Isocyanates. Amines. Organic compounds. Acrylates. Aliphatic fragments. Sulfur oxides.

Other Information: Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not get in eyes, on skin, or on clothing. Do not breathe vapor, mist or spray. Do not allow contact with incompatible materials (see section 10).

6.1.1. For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protective equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit. Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment. Collect spillage.

6.3. Methods and Materials for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Absorb and/or contain spill with inert material. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: May polymerize violently or explosively if contaminated or overheated. Uncontrolled polymerization can cause rapid evolution of heat and increased pressure that can result in violent rupture of storage vessels or containers. If uninhibited, if the inhibitor is lost, or in the presence of incompatible materials, heat, sources of ignition, UV light, or sunlight the product may undergo a hazardous polymerization reaction with the generation of heat. Protect from freezing - if freezing occurs localized depletion of the inhibitor may occur, resulting in an uninhibited product. Take caution when thawing the substance. Always thaw at appropriate temperature, do not apply heat, material should be well mixed. Take appropriate precautions to ensure the inhibitor is not lost, and all applicable handling and storage guidelines are followed.

Precautions for Safe Handling: Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not get in eyes, on skin, or on clothing. Do not breathe fume, mist, spray, vapors. Handle empty containers with care because they may still present a hazard. Use appropriate personal protective equipment (PPE).

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations. Maintain inhibitor levels, do not freeze, avoid UV and direct sunlight.

Storage Conditions: Keep container closed when not in use. Store in a dry, cool, well ventilated place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Store locked up/in a secure area.

Incompatible Materials: Strong acids, strong bases, strong oxidizers. Free radical initiators. Polymerization catalysts. Inert gas. Oxygen scavengers. Peroxides. Ultraviolet light. Direct sunlight. Reducing agents. Ketones. Aldehydes. Amines. Acid anhydrides. Acid chlorides. Mineral acids. Iron oxides.

7.3. Specific End Use(s)

VAT based 3D printing. For professional use only. For research and development use only.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), or OSHA (PEL).

2,6-Di-tert-butyl-p-cresol (128-37-0)		
USA ACGIH	ACGIH TWA (mg/m ³)	2 mg/m ³ (inhalable fraction and vapor)
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	10 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	mg/ m ³
Carbon black (1333-86-4)		
USA ACGIH	ACGIH TWA (mg/m ³)	3 mg/m ³ (inhalable particulate matter)
USA ACGIH	ACGIH chemical category	Confirmed Animal Carcinogen with Unknown Relevance to Humans
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	3.5 mg/m ³ 0.1 mg/m ³ (Carbon black in presence of Polycyclic aromatic hydrocarbons)
USA IDLH	US IDLH (mg/m ³)	1750 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	3.5 mg/ m ³
4-Methoxyphenol (150-76-5)		
USA ACGIH	ACGIH TWA (mg/m ³)	5.0 mg/m ³ (inhalable particulate matter)
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	5.0 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	5.0 mg/ m ³

8.2. Exposure Controls

Appropriate Engineering Controls

: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Vapors may be uninhibited and polymerize, causing blockage of vents. Local exhaust and general ventilation must be adequate to meet exposure standards. Site-specific risk assessments should be conducted to determine the appropriate exposure control measures. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. Ensure all national/local regulations are observed.

Personal Protective Equipment

: Gloves. Protective clothing. Protective goggles. Insufficient ventilation: wear respiratory protection.



Materials for Protective Clothing

: Chemically resistant materials and fabrics.

Hand Protection

: Wear protective gloves.

Eye and Face Protection

: Chemical safety goggles.

Skin and Body Protection

: Wear suitable protective clothing.

Respiratory Protection

: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

Environmental Exposure Controls

: Avoid release to the environment.

Other Information

: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State	: Liquid
Appearance	: Black
Odor	: No data available
Odor Threshold	: No data available
pH	: No data available
Evaporation Rate	: No data available
Melting Point	: No data available

Freezing Point	: No data available
Boiling Point	: No data available
Flash Point	: No data available
Auto-ignition Temperature	: No data available
Decomposition Temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapor Pressure	: No data available
Relative Vapor Density at 20°C	: No data available
Relative Density	: No data available
Solubility	: No data available
Partition Coefficient: N-Octanol/Water	: No data available
Viscosity	: No data available

9.2. Other Information No additional information available

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity: Hazardous reactions will not occur under normal conditions. Excessive heating or exposure to incompatibilities may cause an exothermic polymerization reaction.

10.2. Chemical Stability: Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of Hazardous Reactions: If the inhibitor is lost, or in the presence of heat, UV light, direct sunlight, or incompatible materials this product may undergo an uncontrolled hazardous polymerization reaction with the generation of heat.

10.4. Conditions to Avoid: Incompatible materials. Avoid heat. Avoid oxygen content above the product of less than 5 %. Avoid UV-light and other radiation with high energy. Avoid direct sunlight. Avoid prolonged storage. Avoid inhibitor loss. Avoid excessive temperatures.

10.5. Incompatible Materials: Strong acids, strong bases, strong oxidizers. Free radical initiators. Polymerization catalysts. Inert gas. Oxygen scavengers. Peroxides. Ultraviolet light. Direct sunlight. Reducing agents. Ketones. Aldehydes. Amines. Acid anhydrides. Acid chlorides. Mineral acids. Iron oxides.

10.6. Hazardous Decomposition Products: Under normal conditions of storage and use, hazardous decomposition products will not be produced.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects

Acute Toxicity (Oral): Not classified.

Urethane Methacrylate Oligomer (CN1970) Stabilizer (Proprietary)	
LD50 Oral Rat	1,590-3,910 mg/kg
2,2'-(Ethylenedioxy)diethanethiol (14970-87-7)	
LD50 Oral Rat	835 mg/kg
Pentaerythritol tetrakis (3-mercaptopbutylate) (31775-89-0)	
LD50 Oral Rat	>2,000 mg/kg
2-Hydroxyethyl Methacrylate (868-77-9)	
LD50 Oral Rat	>4,400 mg/kg
Isobornyl Methacrylate (7534-94-3)	
LD50 Oral Rat	>2,000 mg/kg
Acrylated polydimethylsiloxane (125455-52-9)	
LD50 Oral Rat	>2,000 mg/kg
Carbon Black (1333-86-4)	
LD50 Oral Rat	>15,400 mg/kg
Butylated hydroxytoluene (128-37-0)	
LD50 Oral Rat	>6,000 mg/kg
4-Methoxyphenol (150-76-5)	
LD50 Oral Rat	1,630 mg/kg

2,4,6-trimethylbenzoyldiphenyl phosphine oxide (75980-60-8)	
LD50 Oral Rat	>5,000 mg/kg
Phenyl-bis(2,4,6-trimethylbenzoyl)-phosphin oxide (162881-26-7)	
LD50 Oral Rat	>2,000 mg/kg
poly(tetrahydrofuran) (25190-06-1)	
LD50 Oral Rat	>5,000 mg/kg
Fumed Silica (112945-52-5)	
LD50 Oral Rat	>5,000 mg/kg
Poly(ethylene glycol)-block-poly(propyleneglycol)-block-poly(ethylene glycol) (9003-11-6)	
LD50 Oral Rat	>9,380 mg/kg
LD50 Oral Mouse	15,000 mg/kg
Di(propylene glycol) dibenzoate (27138-31-4)	
LD50 Oral Rat	3,914 mg/kg

Acute Toxicity (Dermal): Not classified.

Aliphatic urethane methacrylate oligomer (CN1967) (Proprietary)	
OECD 404 Rabbit Irritation Index	Serious Irritation (estimated)
Urethane Methacrylate Oligomer (CN1970) Stabilizer (Proprietary)	
LD50 Dermal Rat	>2,000 mg/kg
Aliphatic urethane acrylate oligomer (CN9028) (Proprietary)	
OECD 404 Rabbit Irritation Index	0.0/8.0 (4 hours)
Pentaerythritol tetrakis (3-mercaptopbutylate) (31775-89-0)	
LD50 Dermal Rat	>2,000 mg/kg
2-Hydroxyethyl Methacrylate (868-77-9)	
LD50 Dermal Rat	>3,000 mg/kg
Isobornyl Methacrylate (7534-94-3)	
OECD 404 Rabbit Irritation Index	Mild Irritation (4 hours)
Butylated hydroxytoluene (128-37-0)	
LD50 Dermal Rat	>2,000 mg/kg
OECD 404 Rabbit Irritation Index	No Irritation (4 hours)
4-Methoxyphenol (150-76-5)	
LD50 Dermal Rat	>2,000 mg/kg
OECD 404 Rabbit Irritation Index	Mild Irritation (4 hours)
2,4,6-trimethylbenzoyldiphenyl phosphine oxide (75980-60-8)	
LD50 Dermal Rat	>2,000 mg/kg
OECD 404 Rabbit Irritation Index	No Irritation
Phenyl-bis(2,4,6-trimethylbenzoyl)-phosphin oxide (162881-26-7)	
LD50 Dermal Rat	>2,000 mg/kg
poly(tetrahydrofuran) (25190-06-1)	
OECD 404 Rabbit Irritation Index	No Irritation
Fumed Silica (112945-52-5)	
LD50 Dermal Rat	>5,000 mg/kg
OECD 404 Rabbit Irritation Index	No Irritation
Poly(ethylene glycol)-block-poly(propyleneglycol)-block-poly(ethylene glycol) (9003-11-6)	
LD50 Dermal Rat	>5,000 mg/kg
OECD 404 Rabbit Irritation Index	Mild Irritation (24 hours)

Di(propylene glycol) dibenzoate (27138-31-4)	
LD50 Dermal Rat	>2,000 mg/kg
OECD 404 Rabbit Irritation Index	No Irritation

Skin Corrosion/Irritation: Causes skin irritation.

Serious Eye Damage/Irritation: Causes serious eye irritation.

Aliphatic urethane methacrylate oligomer (CN1967) (Proprietary)	
OECD 405 Rabbit Irritation Index	Serious Irritation (estimated)

Aliphatic urethane acrylate oligomer (CN9028) (Proprietary)	
OECD 405 Rabbit Irritation Index	2.9/110 - Mild Irritation

Butylated hydroxytoluene (128-37-0)	
OECD 405 Rabbit Irritation Index	No Irritation

4-Methoxyphenol (150-76-5)	
OECD 405 Rabbit Irritation Index	No Irritation

2,4,6-trimethylbenzoyldiphenyl phosphine oxide (75980-60-8)	
OECD 405 Rabbit Irritation Index	No Irritation

poly(tetrahydrofuran) (25190-06-1)	
OECD 405 Rabbit Irritation Index	No Irritation

Fumed Silica (112945-52-5)	
OECD 405 Rabbit Irritation Index	No Irritation

Poly(ethylene glycol)-block-poly(propyleneglycol)-block-poly(ethylene glycol) (9003-11-6)	
OECD 405 Rabbit Irritation Index	Mild Irritation (24 hours)

Di(propylene glycol) dibenzoate (27138-31-4)	
OECD 405 Rabbit Irritation Index	No Irritation

Respiratory or Skin Sensitization: May cause an allergic skin reaction.

Urethane Methacrylate Oligomer (CN1970) Stabilizer (Proprietary)	
LC0 Rat	6.7 mg/l (dust/mist) (1 hour)

2,2'-(Ethylenedioxy)diethanethiol (14970-87-7)	
LC50 Rat	1.34 mg/l (4 hours)

Fumed Silica (112945-52-5)	
LC0 Rat	0.139 mg/l (4 hours)

Di(propylene glycol) dibenzoate (27138-31-4)	
LC50 Rat	>200 mg/l (4 hours)

Germ Cell Mutagenicity: Not classified.

Carcinogenicity: Suspected of causing cancer.

2,6-Di-tert-butyl-p-cresol (128-37-0)	
IARC group	3

Carbon black (1333-86-4)	
IARC group	2B
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.

Reproductive Toxicity: Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity (Single Exposure): May cause respiratory irritation.

Specific Target Organ Toxicity (Repeated Exposure): Not classified.

Aspiration Hazard: Not classified.

Symptoms/Injuries After Inhalation: Irritation of the respiratory tract and the other mucous membranes. This product may lead to cross-sensitization of other acrylate or methacrylate compounds. If sensitized to other acrylate or methacrylate compounds this product may induce an allergic reaction.

Symptoms/Injuries After Skin Contact: May cause an allergic skin reaction. Redness, pain, swelling, itching, burning, dryness, and dermatitis. This product may lead to cross-sensitization of other acrylate or methacrylate compounds. If sensitized to other acrylate or methacrylate compounds this product may induce an allergic reaction.

Symptoms/Injuries After Eye Contact: Contact causes severe irritation with redness and swelling of the conjunctiva.

Symptoms/Injuries After Ingestion: Ingestion may cause adverse effects.

Chronic Symptoms: Suspected of damaging fertility or the unborn child. Suspected of causing cancer.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General

: Very toxic to aquatic life with long lasting effects.

Urethane Methacrylate Oligomer (CN1970) Stabilizer (Proprietary)	
LC50 Fish 1	>1.1 mg/l (Exposure time: 96 h – Species: Zebra Fish)
EC50 Daphnia 1	0.48 mg/l (Exposure time: 48 h – Species: Daphnia Magna)
EC50 Algae	>0.42 mg/l (Exposure time: 72 h – Species: Green Algae)
NOEC Chronic Fish	0.053 mg/l (Exposure time: 30 d – Species: Oryzias Latipes)
NOEC Chronic Aquatic Invertebrates	0.069 mg/l (Exposure time: 21 d – Species: Water Flea)
ErC10 Chronic Aquatic Plants	0.4 mg/l (Exposure time: 72 h – Species: Green Algae)
2,2'-(Ethylenedioxy)diethanethiol (14970-87-7)	
EC50 Daphnia 1	1.7 mg/l (Exposure Time: 48 h – Species: Daphnia Magna)
Pentaerythritol tetrakis (3-mercaptopbutylate) (31775-89-0)	
LC50 Fish 1	0.16 mg/l (Exposure time: 96 h – Species: Oryzias Latipes)
LC50 Fish 2	>150 mg/l (Exposure time: 96 h – Species: Gobiocypris Rarus)
EC50 Daphnia 1	0.16 mg/l (Exposure time: 48 h – Species: Daphnia Magna)
EC50 Daphnia 2	1.52 mg/l (Exposure time: 21 d – Species: Daphnia Magna)
EC10 Daphnia	0.28 mg/l (Exposure time: 21 d – Species: Daphnia Magna)
ErC50 OECD 201	>0.40 mg/l (Exposure time: 72 h – Species: Selenastrum)
NOEC Algae	>0.021 mg/l (Exposure time: 72 h – Species: Selenastrum)
2-Hydroxyethyl Methacrylate (868-77-9)	
LC50 Fish 1	>100 mg/l (Exposure time: 96 h – Species: Oryzias latipes [Semi-static])
EC50 Daphnia 1	380 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 Other Aquatic Organisms 2	836 mg/l (Exposure time: 72 h - Species: Selenastrum capricornutum)
NOEC Chronic Fish	0.053 mg/l
NOEC Chronic Crustacea	0.069 mg/l (Species: Daphnia magna)
Isobornyl Acrylate (5888-33-5)	
LC50 Fish 1	1-10 mg/l (Exposure time: N/A h – Species: N/A)
EC50 Daphnia 1	1-10 mg/l (Exposure time: N/A h – Species: N/A)
Isobornyl Methacrylate (7534-94-3)	
LC50 Fish 1	1.79 mg/l (Exposure time: 96 h – Species: Zebra Fish)
EC50 Daphnia 1	>2.57 mg/l (Exposure time: 48 h – Species: Daphnia Magna)
EC50 Algae	2.28 mg/l (Exposure time: 72 h – Species: Psuedokirchneriella subcapitata)
Carbon black (1333-86-4)	
EC50 Daphnia 1	5600 mg/l (Exposure time: 24 h - Species: Daphnia magna)
2,6-Di-tert-butyl-p-cresol (128-37-0)	
EC50 Daphnia 1	0.48 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 Other Aquatic Organisms 2	0.43 mg/l (Exposure time: 72 h - Species: Desmodesmus subspicatus)
NOEC Chronic Fish	0.053 mg/l
NOEC Chronic Crustacea	0.069 mg/l (Species: Daphnia magna)
4-Methoxyphenol (150-76-5)	
LC50 Fish 1	25.8 mg/l (Exposure time: 96 h – Species: Rainbow Trout)
EC50 Daphnia 1	3.0 mg/l (Exposure time: 48 h – Species: Daphnia Magna)

NOEC Algae	2.96 mg/l (Exposure time: 72 h – Species: Green Algae)
ErC50 OECD 201	54.7 mg/l (Exposure time: 72 h – Species: Green Algae)
IC50 Bacteria	171.4 mg/l (Exposure time: 40 h – Remarks: (ECHA))

2,4,6-trimethylbenzoyldiphenyl phosphine oxide (75980-60-8)

LC50 Fish 1	6.53 mg/l (Exposure time: 48 h – Species: N/A)
EC50 Daphnia 1	3.53 mg/l (Exposure time: 48 h – Species: Daphnia Magna)
EC50 Algae	>2.01 mg/l (Exposure time: 72 h – Species: N/A)
EC10 Algae	1.56 mg/l (Exposure time: 72 h – Species: N/A)
EC20 Bacteria	>1,000 mg/l (Exposure time: 3 h – Species: N/A)

Phenyl-bis(2,4,6-trimethylbenzoyl)-phosphin oxide (162881-26-7)

LC50 Fish 1	>0.09 mg/l (Exposure time: 96 h – Species: N/A)
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poly(tetrahydrofuran) (25190-06-1)

LC50 Fish 1	68.5 mg/l (Exposure time: 96 h – Species: Zebra Fish)
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Fumed Silica (112945-52-5)

LC50 Fish 1	>10,000 mg/l (Exposure time: 96 h – Species: Brachydanio rerio)
EC50 Daphnia 1	>1,000 mg/l (Exposure time: 24 h – Species: Daphnia Magna)

Poly(ethylene glycol)-block-poly(propyleneglycol)-block-poly(ethylene glycol) (9003-11-6)

LC50 Fish 1	>10,000 mg/l (Exposure time: 96 h – Species: N/A)
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Di(propylene glycol) dibenzoate (27138-31-4)

LC50 Fish 1	3.70 mg/l (Exposure time: 96 h – Species: Fathead minnow)
EC50 Daphnia 1	19.3 mg/l (Exposure time: 48 h – Species: Daphnia Magna)
EC50 Algae	3.6 mg/l (Exposure time: 72 h – Species: Pseudokirchneriella subcapitata)
EC50 Microorganisms	>100 mg/l (Exposure time: 3 h – Species: Sludge Treatment)

12.2. Persistence and Degradability

Elastic ToughRubber™ 90	
Persistence and Degradability	May cause long-term adverse effects in the environment.

2,2'-(Ethylenedioxy)diethanethiol (14970-87-7)

Biodegradability	Chemical oxygen demand – Exposure time: 28 d Result: <10 % - Not Readily Biodegradable
Chemical Oxygen Demand (COD)	Remarks: Chemical Oxygen Demand (COD)

Pentaerythritol tetrakis (3-mercaptopbutylate) (31775-89-0)

Persistence and Degradability	28-days biodegradability test 70%, 87.6% Closed bottle method: 28 days degradation 23%
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Isobornyl Methacrylate (7534-94-3)

Biodegradability	Aerobic – Exposure time: 28 d Result: 70 % - Readily Biodegradable
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4-Methoxyphenol (150-76-5)

Biodegradability	Aerobic – Exposure time: 28 d Result: 86 % - Readily Biodegradable
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2,4,6-trimethylbenzoyldiphenyl phosphine oxide (75980-60-8)

Biodegradability	Aerobic – Exposure time: 28 d Result: <20% - Not Readily Biodegradable
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poly(tetrahydrofuran) (25190-06-1)

Biodegradability	Result: 10 - 20 % - Not Readily Biodegradable
BOD	33 % (OECD 301F)

12.3. Bioaccumulative Potential

Elastic ToughRubber™ 90	
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Bioaccumulative Potential	Not established.
2,6-Di-tert-butyl-p-cresol (128-37-0)	
BCF Fish 1	230 - 2500
Log Pow	4.17

12.4. Mobility in Soil

Elastic ToughRubber™ 90	
Ecology - Soil	Not established.

12.5. Other Adverse Effects

Other Information : Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste Treatment Methods

Waste Disposal Recommendations: Dispose of contents/container in accordance with local, regional, national, and international regulations.

Additional Information: Container may remain hazardous when empty. Continue to observe all precautions.

Ecology - Waste Materials: Avoid release to the environment. This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

SECTION 14: TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

14.1. In Accordance with DOT

Identification Number : NOT REGULATED

14.2. In Accordance with IMDG

Proper Shipping Name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2,4,6-trimethylbenzoyldiphenyl phosphine oxide, 2-Propenoic acid, 1,7,7-trimethylbicyclo[2.2.1]hept-2-yl ester, exo-)

Hazard Class : 9

Identification Number : UN3082

Packing Group : III

Label Codes : 9

EmS-No. (Fire) : F-A

EmS-No. (Spillage) : S-F

Marine Pollutant : Marine pollutant

Additional Information : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packaging meets the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

Special Provisions : 274, 335, 969

14.3. In Accordance with IATA

Proper Shipping Name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2,4,6-trimethylbenzoyldiphenyl phosphine oxide, 2-Propenoic acid, 1,7,7-trimethylbicyclo[2.2.1]hept-2-yl ester, exo-)

Packing Group : III

Identification Number : UN3082

Hazard Class : 9

Label Codes : 9

ERG Code (IATA) : 9L

Additional information : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.

Quantity Limitation : Passenger and Cargo Aircraft: 450 L Packaging instructions: 964. Cargo Aircraft Only: 450 L. Packaging Instructions: 964 Limited Quantities – Passenger Aircraft: 30 kg. Packaging Instructions: Y964.

Special Provisions : A97, A158, A197



15.1. US Federal Regulations

Elastic ToughRubber™ 90	
SARA Section 311/312 Hazard Classes	Health hazard - Skin corrosion or Irritation Health hazard - Serious eye damage or eye irritation Health hazard - Respiratory or skin sensitization Health hazard - Carcinogenicity Health hazard - Reproductive toxicity Health hazard - Specific target organ toxicity (single or repeated exposure)
Aliphatic urethane acrylate (CN1967) (Proprietary)	
EPA TSCA Regulatory Flag	Listed on the United States TSCA (Toxic Substances Control Act) inventory
Aliphatic urethane acrylate (CN1970) (Proprietary)	
EPA TSCA Regulatory Flag	Listed on the United States TSCA (Toxic Substances Control Act) inventory
Aliphatic urethane acrylate (CN9004) (Proprietary)	
EPA TSCA Regulatory Flag	Listed on the United States TSCA (Toxic Substances Control Act) inventory
Aliphatic urethane acrylate (CN9028) (Proprietary)	
EPA TSCA Regulatory Flag	Listed on the United States TSCA (Toxic Substances Control Act) inventory
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide (75980-60-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
EPA TSCA Regulatory Flag	PMN - PMN - indicates a commenced PMN substance.
Pentaerythritol tetrakis (3-mercaptopbutylate) (31775-89-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Carbon black (1333-86-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
2,6-Di-tert-butyl-p-cresol (128-37-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
2,4,6-trimethylbenzoyldiphenyl phosphine oxide (75980-60-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

15.2. US State Regulations

Aliphatic urethane acrylate (CN1967) (Proprietary)	
U.S. - Pennsylvania - RTK (Right to Know) List	
Dimethylacrylate ester (CN1967) (Proprietary)	
U.S. - Pennsylvania - RTK (Right to Know) List	
Aliphatic urethane acrylate (CN1970) (Proprietary)	
U.S. - Pennsylvania - RTK (Right to Know) List	
Aliphatic urethane acrylate (CN9004) (Proprietary)	
U.S. - Pennsylvania - RTK (Right to Know) List	
2-Hydroxyethyl Methacrylate (868-77-9)	
U.S. - Pennsylvania - RTK (Right to Know) List	
Carbon black (1333-86-4)	
U.S. - Massachusetts - Right To Know List	
U.S. - New Jersey - Right to Know Hazardous Substance List	
U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances	

U.S. - Pennsylvania - RTK (Right to Know) List

2,6-Di-tert-butyl-p-cresol (128-37-0)

U.S. - Massachusetts - Right To Know List

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

4-Methoxyphenol (150-76-5)

U.S. - Massachusetts - Right To Know List

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

Poly(ethylene glycol)-block-poly(propyleneglycol)-block-poly(ethylene glycol) (9003-11-6)

U.S. - New Jersey - Right to Know Hazardous Substance List


U.S. - Pennsylvania - RTK (Right to Know) List

Di(propylene glycol) dibenzoate (27138-31-4)

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

California Proposition 65

 **WARNING:** This product can expose you to Carbon black, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Chemical Name (CAS No.)	Carcinogenicity	Developmental Toxicity	Female Reproductive Toxicity	Male Reproductive Toxicity
Carbon black (1333-86-4)	X			
1,2-Benzenediol (120-80-9)	x			
Benzene, methyl- (108-88-3)			x	

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION
Date of Preparation or Latest Revision : 9/22/2020

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200
The specific chemical identity and/or exact percentage of composition have been withheld as a trade secret [29 CFR 1910.1200].

GHS Full Text Phrases:

Acute Tox. Oral 4	Acute toxicity (Oral) Category 4
Skin Irrit. 2	Skin corrosion/irritation Category 2
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Skin Sens. 1	Skin sensitization, Category 1
Skin Sens. 1B	Skin sensitization, Category 1B
Acute Tox. Inh. 4	Acute toxicity (Inhalation) Category 4
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
Repr. 2	Reproductive toxicity Category 2
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Comb. Dust	Combustible Dust
H302	Harmful if swallowed
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H332	Harmful if inhaled

H335	May cause respiratory irritation
H361	Suspected of damaging fertility or the unborn child
H373	May cause damage to organs (pancreas) through prolonged or repeated exposure
H400	Very toxic to aquatic life
H401	Toxic to aquatic life
H402	Harmful to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H411	Toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects
H413	May cause long lasting harmful effects to aquatic life

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SDS US (GHS HazCom)